NSLS PERMIT FOR WORKING ON OR NEAR ENERGIZED CONDUCTORS FOR "TROUBLESHOOTING and DIAGNOSING ENERGIZED EQUIPMENT" AT THE FOLLOWING RANGES:

50 < (Vac rms) ≤ 120 & ≥ 10 mA rms available current

Permit Valid for the Period: 07/01/2006 through 06/30/2007

Instructions:

1. This Permit shall be used consistent with the requirements of BNL ESH Standards 1.5.0, NSLS PRM 1.5.0, and applicable group electrical safety procedures.
2. Supervisors shall record the names on the attached form of the personnel authorized to perform the work defined in this permit.
3. This permit requires initial review and approval by the NSLS Electrical Safety Officer (ESO).
4. Supervisors shall retain the permit and send a copy to the NSLS Electrical Safety Officer.
5. This permit is valid only during the time period specified above and must be renewed on an annual basis by the supervisor.

Work Location:	NSLS Complex		
Description:	Troubleshooting energized equipment (voltage measurements) that is connected to a 120-volt receptacle by an AWG 16 or 14 line cord at least three feet long, or AWG 12 at least six feet long, and the worker is authorized to work on.		
Justification:	Conduct voltage measurements on equipment to facilitate repairs when diagnosing cannot be performed in a de-energized state.		
Hazard Description:	Exposure to energized electrical terminals and components may result in electrical shock, burns, and/or damage to circuitry.		
PPE and Tools: (check off required PPE)	Non-conductive safety glasses, voltage rated gloves & leather glove protectors, natural fiber undergarments, natural fiber long sleeve shirt, natural fiber pants, voltage rated tools, and category III or IV multimeter.		
Flash Protection Boundary: 4' 0"	**Limited Approach Boundary:** 3' 6"	**Restricted Approach Boundary:** 0' 1"	**Prohibited Approach Boundary:** Avoid Contact
Department Chair Approval:	W. R. Laney		**Date: 06/29/2006**
NSLS ESO Approval:			**Date:**
ESO Comments:			
Worker Feedback:			

Authorized Personnel

The following persons are authorized to perform the work described above subject to the requirements established in their training and qualification program:

Name (print)	Signature	Life Number
Supervisor or Local Contact Approval:		Date:

General Procedure for Testing or Diagnosing Energized Conductors in the Above Ranges

1. Identify and locate:
    a. Power sources and shutoff devices for the equipment to be worked on
    b. telephones

2. Establish work area:
    a. Notify affected personnel in vicinity that exposed energized conductors will exist in work area
    b. Cordon off work area

3. Remove Conductive Apparel

4. Wear the protective equipment specified in the work permit.

5. Review the equipment to be worked on and determine the location of measurements that you plan to make. Remind yourself of the location of energized conductors.

6. Measurement technique:
    a. Use one hand to make measurement
    b. Connect probe to ground first, then to live terminal
    c. Remove probe from live terminal first, then from ground

7. Stop work if unanticipated conditions exist. Discuss issues with work control coordinator or supervisor to determine if additional controls are required to perform work safely. If you need to leave the work area, do not leave any exposed energized conductors.

8. Perform Testing using an approved category III or IV multimeter only.

9. On completion of work:
    a. Remove all materials and equipment
    b. Close enclosures
    c. Remove barriers
    d. Notify affected personnel
    e. Advise supervisor or WCC that the work is complete
    f. If needed, fill in worker feedback section on permit and forward a copy to the NSLS ESO